UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,090	07/23/2001	Philip B. Romanik		4011

7590 01/08/2008

Philip B. Romanik
116 Parker Avenue East
West Haven, CT 06516

EXAMINER	
GOLD, AVI M	
ART UNIT	**PAPER NUMBER**
2157	
MAIL DATE	**DELIVERY MODE**
01/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/911,090	ROMANIK ET AL.	
	Examiner	Art Unit	
	Avi Gold	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the amendment filed on October 17, 2007. Claims 1-18 were amended. Claims 1-18 are pending.

Response to Amendment

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. A means for optionally making a copy of an image, a means for persisting an image on a server device are both not found in the specification, and transferring the image from the client device to the server device as a digital signal such that a permanent copy of the image is not maintained on the client device.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 12, and 14 rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

5. Claims 1 and 12 recite the limitation "the image" throughout the claim. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 14 recites the limitation "the volatile image" throughout the claim. There is insufficient antecedent basis for this limitation in the claim.

7. The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claims are currently written in a way that is only means for performing in a system without there being much structure. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 2, 4-9, and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka, U.S. Patent No. 6,564,256, in view of Ohtake et al, 9U.S. Patent No. 6,111,591, further in view of Mummert et al., U.S. Patent No. 6,427,152.

Tanaka teaches the invention substantially as claimed including an image transfer system which transfers medical image data on a DICOM (Digital Imaging and Communication in Medicine) standard communication system (see abstract).

Regarding claims 1 and 14, Tanaka teaches a system for transmitting digital image signals from a client device to a server device, comprising:

means for establishing a connection between one or more client devices and server device (col. 5, lines 33-40, Tanaka discloses terminals and image servers transferring data);

means for optionally making a copy of the image to free up system resources on the client;

means for dynamically reducing the size of images in the client queue to either conserve storage space in the client queue or to reduce transmission time between the client and server (col. 10, lines 53-65, Tanaka discloses reducing the size of an image if it is too large);

means for transferring the image from the client device to the server device as a digital signal such that a permanent copy of the image is not maintained on the client device (col. 5, lines 33-46, Tanaka discloses image data transferred between terminals and servers);

means for persisting the image on the server device until it is processed or saved whereas the image may be or reduced resolution or quality (col. 6, lines 49-56, col. 10, lines 4-15).

Tanaka fails to teach the limitation further including means for transferring the image to a client queue if the image cannot be transmitted immediately and increasing the size of the client queue if it becomes full due to the accumulation of images in the queue, means for measuring the availability of local client resources including available processor time and means for maintaining historical information and trends of client resources, and means for measuring the status and performance of the network connecting the client device and server device, and means for maintaining historical information and trends of the network.

However, Ohtake teaches an image processing system and an information processing system for receiving data from a number of host systems via a number of input interfaces and processing the received data (see abstract). Ohtake teaches the use of an image buffer and enlarging the buffer size when that buffer is full (col. 1, lines 53-54, col. 2, lines 6-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka in view of Ohtake to place a copy of the image in a client queue if the image cannot be transmitted immediately and increase the size of the client queue if it becomes full. One would be motivated to do so because it allows an image processing system to decrease the loads on host systems.

Tanaka and Ohtake fail to teach the limitation further including means for measuring the availability of local client resources including available processor time and means for maintaining historical information and trends of client resources and means for measuring the status and performance of the network connecting the client device and server device, and means for maintaining historical information and trends of the network.

However, Mummert teaches a system and method for providing property histories of objects for more accurate forecasting of computer system storage capacity (see abstract). Mummert teaches measuring of resources and maintain historical information (col. 3, lines 35-47, col. 6, lines 5-44).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka and Ohtake in view of Mummert to measure the availability of local client resources including available processor time and maintain historical information and trends of client resources, and means for measuring the status and performance of the network connecting the client device and server device, and means for maintaining historical information and trends of the network. One would be motivated to do so because it allows for the use of statistical data to improve image transmission efficiency.

Regarding claims 2 and 15, Tanaka teaches a system according to claims 1 and 14, wherein the means for increasing the size of the client queue includes an upper limit

to prevent the queue from growing beyond a specified size (col. 2, lines 6-16, Ohtake discloses an upper limit value for the buffer).

Regarding claim 4, Tanaka teaches a system according to claim 1, wherein the means for transferring the image signal from the client to the server can comprise:

transmitting image data from one or more clients to a gateway server, such that the clients consider the gateway server to be a server;

buffering the image data on the gateway server;

transmitting image data from the gateway server to the server, such that the server considers the gateway server to be a client (col. 5, lines 33-55, col. 6, lines 49-56, col. 10, lines 4-52).

Regarding claims 5 and 16, Tanaka teaches a system according to claims 1 and 14, wherein the means for reducing the size of an image comprises:

means for selecting one or more reduction methods to reduce the image size from a plurality of lossless or lossy compression methods;

means for reducing the current image, or reducing any image in the queue when the queue becomes full;

means for periodically reducing the size of the images in the queue, using reduction methods when processor resources are available (col. 10, lines 53-65).

Regarding claims 6 and 17, Tanaka teaches a system according to claims 5 and 16, wherein the means for selecting one of more reduction methods comprises:

means for estimating the reduction in image size possible for a specific reduction method;

means for estimating the cost of this reduction where the cost includes the resources required for reduction as well as the time to reduce the image;

means for performing the reduction if the cost is allowable and the reduction is considered meaningful;

means for evaluating other reduction methods if the desired amount of reduction has not been achieved (col. 10, lines 53-65).

Regarding claims 7 and 18, Tanaka teaches a system according to claims 6 and 17, wherein the means for determining if the cost is allowable comprises:

means for checking the current system resources to see if sufficient resources and time are available to reduce the image;

means for checking historical system resources and trends to estimate future resource availability;

means for checking the current network parameters such as available bandwidth and throughput;

means for checking historical network conditions and trends to estimate future network conditions (col. 6, lines 49-56, col. 10, lines 4-15).

Regarding claim 8, Tanaka teaches a system according to claim 1, wherein the means for transferring the image signal from the client device to the server device comprises:

means for storing the received image in a server queue or on a networked file system;

means for increasing the size of the server queue if the server queue it becomes full due to the accumulation of images in the queue (col. 10, lines 18-39);

means for dynamically reducing the size of images in the server queue to conserve storage space in the queue or to reduce storage requirements in the image database (col. 10, lines 53-65).

Regarding claim 9, Tanaka teaches a system according to claim 8, wherein the means for increasing the size of the server queue includes an upper limit to prevent the queue from growing beyond a specified size (col. 10, lines 18-52).

Regarding claim 12, Tanaka teaches a method for transmitting digital image signals from a client device to a server device, comprising:

establishing a connection between one or more client devices and server device (col. 5, lines 33-40);

optionally making a copy of the image to free up system resources on the client (col. 5, lines 47-55);

dividing the available network bandwidth between the client and server into one or more pieces and assigning certain images to be transmitted using these reserved channels (col. 5, lines 47-55, Tanaka discloses using different relay servers and piecing the image);

measuring the client resource availability of local processor resources and available processor time, and maintaining historical information and trends;

measuring the status and performance of the network connecting the client device and server device, and maintaining historical information and trends (col. 6, lines 49-56, col. 10, lines 4-15);

dynamically reducing the size of images in the client queue to conserve storage space in the queue or reduce transmission time between the client and server (col. 10, lines 53-65);

transferring the image from the client device to the server device as a digital signal such that a permanent copy of the image is not maintained on the client device (col. 5, lines 33-46);

persisting the image on the server device until it is processed or saved whereas the image may be of reduced resolution or quality (col. 6, lines 49-56, col. 10, lines 4-15).

Tanaka fails to teach the limitation further including transferring the image to a client queue if the image cannot be transmitted immediately, increasing the size of the client queue if the client queue becomes full due to the accumulation of images in the queue, means for measuring the availability of local client resources including available

processor time and means for maintaining historical information and trends of client resources and means for measuring the status and performance of the network connecting the client device and server device, and means for maintaining historical information and trends of the network.

However, Ohtake teaches the use of an image buffer and enlarging the buffer size when that buffer is full (col. 1, lines 53-54, col. 2, lines 6-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka in view of Ohtake to place a copy of the image in a client queue if the image cannot be transmitted immediately and increase the size of the client queue if it becomes full. One would be motivated to do so because it allows an image processing system to decrease the loads on host systems.

Tanaka and Ohtake fail to teach the limitation further including means for measuring the availability of local client resources including available processor time and means for maintaining historical information and trends of client resources and means for measuring the status and performance of the network connecting the client device and server device, and means for maintaining historical information and trends of the network.

However, Mummert teaches measuring of resources and maintain historical information (col. 3, lines 35-47, col. 6, lines 5-44).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka and Ohtake in view of Mummert to measure the availability of local client resources including available processor time and maintain historical

information and trends of client resources, and means for measuring the status and performance of the network connecting the client device and server device, and means for maintaining historical information and trends of the network. One would be motivated to do so because it allows for the use of statistical data to improve image transmission efficiency.

Regarding claim 13, Tanaka teaches a method according to claim 12, wherein the step of reserving network bandwidth comprising:

specifying the mapping of image type to a reserved piece of network bandwidth;

using any remaining, unreserved network bandwidth for images that do not have any defined mapping;

allocating a separate queue for each piece of network bandwidth or allocating elements from a single queue;

identifying the type of image and routing this image to the appropriate piece of network bandwidth or queue (col. 9, lines 1-37, Tanaka discloses using different servers for different types of image data).

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka, Ohtake, and Mummert further in view of Glass et al., U.S. Patent No. 6,332,193.

Tanaka teaches the invention substantially as claimed including an image transfer system which transfers medical image data on a DICOM (Digital Imaging and Communication in Medicine) standard communication system (see abstract). Ohtake

teaches the invention substantially as claimed including an image processing system and an information processing system for receiving data from a number of host systems via a number of input interfaces and processing the received data (see abstract). Mummert teaches the invention substantially as claimed including a system and method for providing property histories of objects for more accurate forecasting of computer system storage capacity (see abstract).

As to claim 3, Tanaka, Ohtake, and Mummert teach the method of claim 1.

Tanaka, Ohtake, and Mummert fail to teach the limitation further including the step of transferring the signal from the client to the server can include encrypting the information on the client prior to transmission and decrypting the data once it is received by the server.

However, Glass teaches the transmission of unprocessed biometric data from a camera or other sensor to a server at a remote location over a network in a secure manner (see abstract). Glass teaches the use of encrypting data on the client and decrypting the data on the server (col. 10, lines 59-66).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka, Ohtake, and Mummert in view of Glass to use encryption and decryption on the client and server. One would be motivated to do so because it allows for the secure transfer of data.

11. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka, Ohtake, and Mummert further in view of Lopresti, U.S. Patent No. 6,298,173.

Tanaka teaches the invention substantially as claimed including an image transfer system which transfers medical image data on a DICOM (Digital Imaging and Communication in Medicine) standard communication system (see abstract). Ohtake teaches the invention substantially as claimed including an image processing system and an information processing system for receiving data from a number of host systems via a number of input interfaces and processing the received data (see abstract). Mummert teaches the invention substantially as claimed including a system and method for providing property histories of objects for more accurate forecasting of computer system storage capacity (see abstract).

As to claim 10, Tanaka, Ohtake, and Mummert teach the method of claim 8.

Tanaka and Ohtake fail to teach the limitation further including selecting one or more reduction methods to reduce the image size from a plurality of lossless or lossy compression methods and using lossless compression methods when processor resources are available.

However, Lopresti teaches a method of managing storage in a document image database using document analysis to partition documents into logical regions and document reduction means for reducing storage size of the regions according to various storage preference rules (see abstract). Lopresti teaches reduction of image size from

lossless and lossy compression methods and the use of lossless compression methods (col. 6, line 57 – col. 7, line 45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tanaka, Ohtake, and Mummert in view of Lopresti to select one or more reduction methods to reduce the image size from a plurality of lossless or lossy compression methods and to use lossless compression methods. One would be motivated to do so because it allows for good data compression performance.

Regarding claim 11, Tanaka, Ohtake, and Mummert teach a system according to claim 10, wherein the step of selecting one of more reduction methods comprises:

estimating the reduction in image size possible for a specific reduction method;

estimating the cost of this reduction where the cost includes the resources required for reduction as well as the time to reduce the image;

performing the reduction if the cost is allowable and the reduction is considered meaningful;

evaluating other reduction methods if the desired amount of reduction has not been achieved (col. 10, lines 53-65).

Response to Arguments

12. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

13. Before submitting an amendment, please contact the examiner to discuss possible claim amendments to overcome the various 112 issues.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Examiner suggests that the Applicant thoroughly reviews the Ohtake et al. Patent (U.S. Pat. No. 6,111,591) before submitting a response/amendment.

U.S. Pat. No. 5,179,651 to Taaffe et al.

U.S. Pat. No. 5,845,018 to Breish

U.S. Pat. No. 6,388,687 to Brackett et al.

U.S. Pat. No. 6,564,225 to Brogliatti et al.

U.S. Pat. No. 5,706,457 to Dwyer et al.

U.S. Pat. No. 5,359,512 to Nishihara

U.S. Pat. No. 5,187,750 to Behera

U.S. Pat. No. 6,519,632 to Brackett et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Avi Gold whose telephone number is 571-272-4002. The examiner can normally be reached on M-F 8:00-5:30 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Avi Gold

Patent Examiner

Art Unit 2157

AMG